Table 1

Acc # 1-Vehicle Motion Acc # 2-Wheel Angle Light Sensor - Ambient Temp Sensor - Ambient Sounder Mark Button

Table 2

W - Wheel Rotation Angle

X - Measured component of g in sensor axis (m/s/s)
K wheel - Sensor scaling factor (mm/s/s/bit)

g - Gravity 9.81 m/s/s g - Gravity Vector Component in wheel Plane

Sin W = X/g

 $X = k \text{ wheel } / 1000 \times (Ch(1)-ZeroWheel) \times 1/Cos(Alpha)$

Sin W = k wheel / $(1000 \times g)x(Ch(1)-ZeroWheel)x(1/Cos(Alpha)$

W + ArcSin [Kwheel /(1000 x g)x(Ch(1)-ZeroWheel)x 1/Cos(Alpha)]

Table 3

RMS Steering Angle- R(Deg) = $\left| \sum \frac{\text{Wheel[n]}}{2} \right|^2$

Table 4

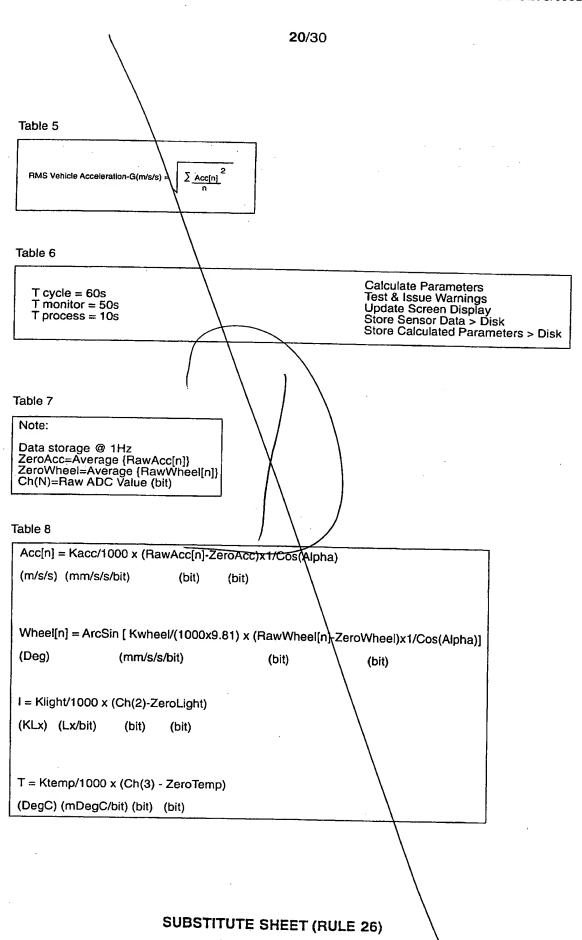
Bound Check

W Limit- < W < W Limit+

W < W Limit-W > W Limit+

Steering Mode=Corrective

Steering Mode=Active Steering Mode=Active



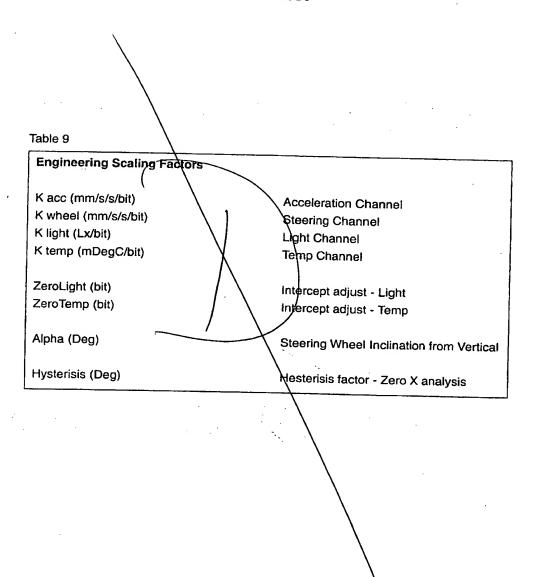




Table TO		
Sleep Propensity Algorithm - Definition		
S mod=S circ + S zerox + S rms + S light + S temp + S sleep + S road + S trip		
Elemental	Bound Limit	
S mod	0 <s <1<="" mod="" td=""></s>	
S zerox = (F zerox/100) (Z ret-Z)	0 <s <1<br="" circ="">0<s td="" zerox<=""></s></s>	
S rms = (F rms/100) (R-R ref) S light = (F light/100) (I ref \(\)	0 <s rms<br="">0<s light<="" td=""></s></s>	
S temp = (F temp/100) (T -T ref) S sleep = (F sleep/100) (H ret - (HxQ))	0 <s td="" temp<=""></s>	
S road = (F road/100) (G ref -G)	0 <s sleep<br="">0<s road<="" td=""></s></s>	
S trip = (F trip/100) x D	0 <s td="" trip<=""></s>	

Table 11

Algorithm Ele	ementals - S
S mod (S)	Modified Sleep Propensity Factor-Range 01
S circ (S)	Current Circadian Sleep Propensity Value
S zerox (S)	Current Corrective Steering Reversal Rate Deficit
S rms (S)	Current RMS Corrective Steering Amplitude Surfit
S light (S)	Current Ambient Lighting Intensity Deficit
S temp (S)	Current Ambient Temperature Surfit
S sleep (S)	Prior Sleep Good Hours Deficit
S road (S)	Current Road Activity Deficit
S trip (S)	Accumulated Trip Duration

Table 12

Algorithm Weighting Factors - F

Note: Factors are % S Unit per Parameter Unit

F zerox (%S/#/min)

Corrective Steering Reversal Rate Deficit - % Factor

F rms (%S/Deg)
F light (%S/kLx)

RMS Corrective Steering Amplitude Surfit - % Factor Average Ambient Lighting Intensity Deficit - % Factor Average Ambient Temperature Surfit - % Factor

F temp (%S/DegC) F sleep (%S/Hr)

Prior to Good Hours Sleep Deficit - % Factor

F road (%S/m/s/s)

Road Activity Deficit - % Factor

F trip (%S/Hr)

Accumulated Trip Duration - % Factor

Table 13

Algorithm Reference Offfsets - ref

Z ref (#/min)

Corrective Steering Reversal Rate - Ref Offset

Corresponds to 'Alert ' Driving Subject Dependent

R ref (Deg)

Corrective Steering RMS Amplitude - Ref Offset Corresponds to 'Alert' Driving Subject Dependent

I ref (kLx)

Average Ambient Lighting Intensity - Ref Offset

Corresponds to moderate daylight

T ref (DegC)

Average Ambient Temperature - Ref Offset

Corresponds to moderate environment

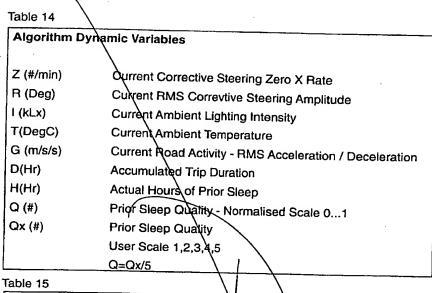
H ref (Hr)

Prior to Good Hours Sleep Ref Offset

Corresponds to optimum value

G ref (m/s/s)

Road Activity - RMS Acceleration / Deceleration - Ref Offset

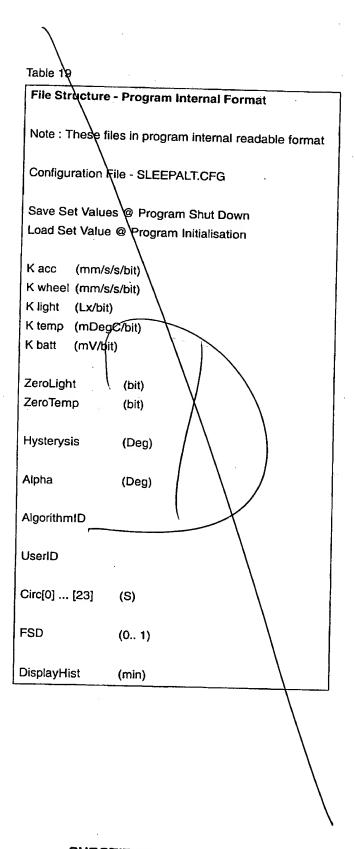


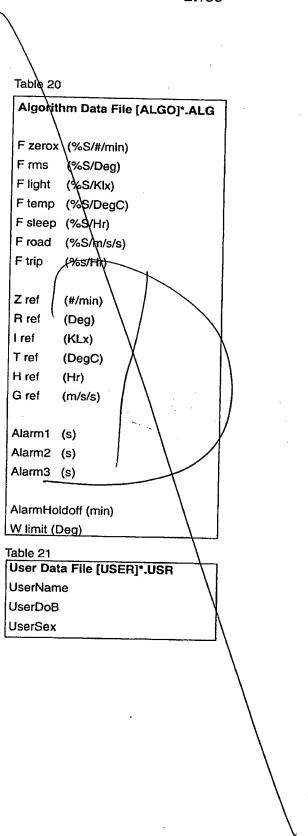
Ctassing Made	
Steering Mode	& Steering Limit -W limit
W limit (Deg)	Decision limit - Steering mode detection
(3)	
	+W limit >W> -W limit >>> Corrective
	+W limit <w< -w="" limit="">>> Active</w<>
,	
Steering Mode	Steering mode decision
	ACTIVE, CORRECTIVE

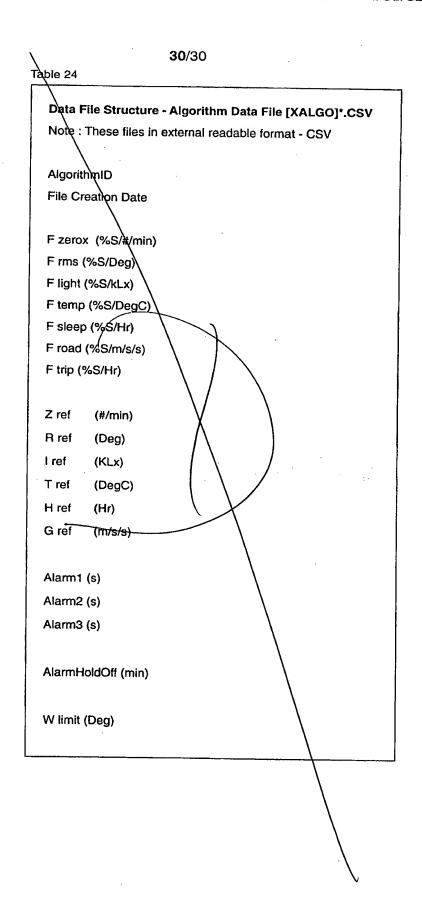
Table 16

Alarm Levels & Alarm S	tate
	,
Alarm Level 1 (s)	Alarm level threshold
Alarm Level 2 (s)	Alarm level threshold
Alarm Level 3 (s)	Alarm level threshold
Alarm Holdoff (min)	Initial alarm forced hold-off time -\N minutes
Alarm State	Alarm status decision
	CLEAR, LEVEL1, LEVEL2, LEVEL3 HOLDOFF

Table 17 User Software Functions Set Display Parameters Enter New Values and <RET> or <RET> to bypass edit option. Display History (min) Graphic display history length - Last N minutes FSD (S) Graphic display full scale - S unit (0.. 1) Table 18 Data Directiory Structure [ALGO] *.ALG Algorithm Data Files - Internal Format [USER]*.ALG User Data Files - Internal Format [XALGO]*.CSV Algorithm Data Files - CSV Format [XUSER]*.CSV User Data Files - CSV Format [XDRIVE]*.CSV Drive Mode Data Files - CSV Format [XLEARN]*.CSV Learn Mode Data Files - CSV Format







SUBSTITUTE SHEET (RULE 26)

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Table 22

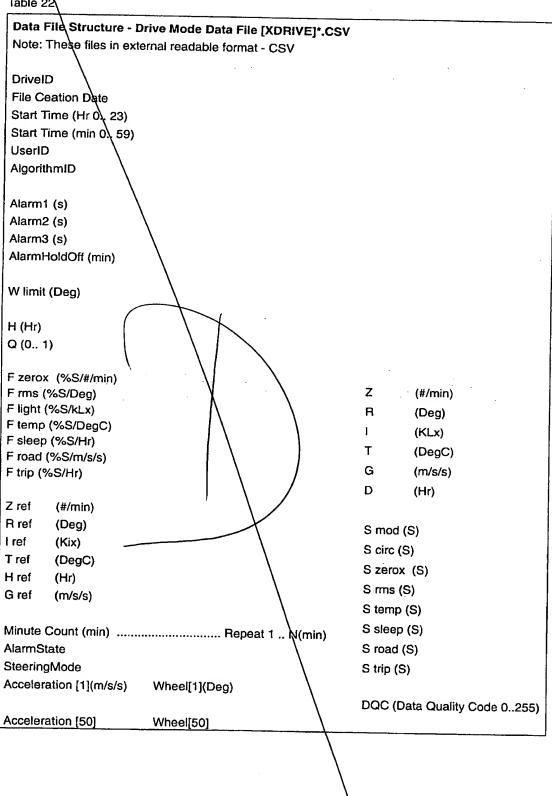


Table 23

Data File Structure - Learn Mode Data File [XLEARN]*.CSV

Note: These files in external readable format - CSV

Data File Structure User Data File [XUSER]*.CSV

Note: These files in external readable format - CSV

UserID

File Creation Date

UserName

UserDoB

UserSex